1) to fill in the questionnaire online, focusing on the instructions developed for online use; 2) to comment on their understanding of the instructions and suggest alternative formulations in case of problematic wording; and 3) to comment on the online administration and handiness of the version on the device (i.e., legibility of the instructions and items/response choices). After the test session, the interviewer asked questions about easiness of completion, navigation, instructions, screen and font size, and also reported on any hesitations or questions asked by the patient during the process. The severity of the issues encountered during the test was divided into three levels with level 1 indicating inability of use and/or incomprehensibility of instructions. **RESULTS:** All respondents were able to answer the questions on their own without help. The respondents found the instructions very clear, and completing the online versions of the instruments proved to be easy and quick. For those who wished to correct their answers, going back to the previous screens was also easy. Minor changes were suggested to the screen resolution, font size of the response choices of the AQLQ(S)+12, and to the background colour. It was also suggested the number of questions should be included on the first screen. The online versions were revised accordingly. All parties involved agreed that there was no need for further testing. **CONCLUSIONS:** The web-based UK versions of the AQLQ(S)+12 and (ACQ-6) proved to be easy to use and understandable with minor improvements.

PRM103

DEVELOPMENT AND CONTENT VALIDITY OF A PEDIATRIC FUNCTIONAL CONSTIPATION DAILY DIARY

Turner-Bowker DM[1], Lindner E[2], Mareya S[2], Losch-Beridon T[2], Elash CA[1], Paty J[3], Keithly S[4], Ascoytia C[4]

[1]*ERT, Pittsburgh, PA, USA,* [2]*Sucampo Pharma Americas LLC, Bethesda, MD, USA,* [3]*Quintiles, Hawthorne, NY, USA,* [4]*Health Research Associates, Mountlake Terrace, WA, USA*

OBJECTIVES: To demonstrate how patient and parent/legal guardian interviews reinforce a conceptual model of pediatric functional constipation signs, symptoms, and impact for inclusion in a Pediatric Functional Constipation Daily Diary (PFC-DD); and to evaluate patient and parent/legal guardian comprehension and usability of the PFC-DD administered via electronic diary. **METHODS:** Qualitative patient interviews were conducted with pediatric patients who have functional constipation and their parent/legal guardian to determine the most important and relevant signs, symptoms, and impacts associated with the condition, and to evaluate comprehension and usability of the draft PFC-DD. Concept elicitation (CE) and cognitive interviews (CI) were conducted with the parent/legal guardian of children ages 6 months to < 6 years (CE, n=18; CI, n=11), and with children/adolescents ages 6 to < 18 years and their parent/legal guardian (CE, n=18; CI patient n= 21, parent n=20). **RESULTS:** For both groups, the predominant sign/symptom concepts reported were: stool consistency changes, toileting avoidance and/or retentive posturing, child report and/or behaviors suggesting abdominal pain, difficulty while toileting (e.g., straining, rectal pain), infrequent bowel movements, and appetite changes. Parents of children ages 6 months to < 6 years also reported abdominal hardness, gas, and soiling. The predominant impacts reported were limitations in physical activity, emotional and social function, sleep (younger age group only), school participation (older age group only), and coping strategies (e.g., medications/supplements). Results from the CIs indicated no comprehension problems for most items. However, minor revisions (e.g., definition for 'retentive posturing') were made to the wording of a few items to improve clarity and appropriate understanding of the concept. No concerns were raised about the usability of the electronic diary. **CONCLUSIONS:** Findings support the content validity of the PFC-DD, a new instrument that includes PRO and ObsRO items to assess the key signs, symptoms, and impacts experienced by pediatric patients with functional constipation.

PRM104

WHEN THE LITERAL MEANING JUST WON'T DO - CULTURAL ADAPTATION ISSUES RESOLVED DURING THE LINGUISTIC VALIDATION OF A BEHAVIOURAL SCALE

Williams H, Oke L, Scharf L, Anderson H, Gergovich B

ICON Plc, Oxford, UK

OBJECTIVES: (1) To identify the translation issues during linguistic validation of a behavioural scale, (2) to ascertain whether the same issues appeared in more than one language, (3) to determine what solutions were found to ensure conceptual accuracy, with a view to collecting consistently valid data across the study. **METHODS:** 28 back translation and psychologist reviews of a behavioural scale were examined, in which translation issues had been discussed at length between lead translators, project managers and experts in the field. Information was gathered on the translation difficulties that arose in each language and the results were compared in order to identify patterns. **RESULTS:** Three main categories of discussion were identified: Transferral of word length and complexity was particularly important. Literal translations needed replacing with culturally adapted wording across a high percentage of the languages to ensure overall conceptual equivalence. Many idioms and common phrases were found to be nonsensical when translated literally. Across all languages, expressions like 'Button your lip' and 'Hit the road' were replaced with localised sayings that would enable conceptual comprehension of the items. Questions regarding grammar and tense led to alterations and omissions in a number of languages due to dramatic differences in language structure across the world. In questions regarding irregular verb use, for example, most languages replaced the examples or removed them altogether if no such irregular verbs existed. **CONCLUSIONS:** The behavioural scale was found to contain many translation issues arising from its focus on language specific distinctions. Patterns were found in the resolution of these issues and changes often necessitated moving away from a literal translation so that concepts and ideas could be appropriately conveyed. This highlights the importance of linguistic validation and its ability to improve translation quality for cross-cultural comparison.

PRM105

MEASUREMENT EQUIVALENCE AND PATIENT PREFERENCE FOR THE SF-36V2 ON A HANDHELD DEVICE AND SMARTPHONE APP

Khurana L[1], White MK[2], Bjorner JB[2], Gary ST[1], Vazquez V[1], Otero A[1], Dallabrida S[1]

[1]*PHT Corporation, Boston, MA, USA,* [2]*Optum PatientInsights, Lincoln, RI, USA*

OBJECTIVES: The Short-Form 36 Health Survey version 2.0 (SF-36v2®) is a validated patient-reported outcome instrument. A validated single-item format version exists for deployment on computer screens/tablet-sized devices, and an electronic handheld version was developed in 2012. The objectives of this study were to evaluate measurement equivalence between the paper and electronic versions of the SF-36v2 administered using a handheld device or a smartphone app, and to determine patient preference for mode of administration. **METHODS:** This was a randomized crossover study in which 101 subjects with type II diabetes completed the SF-36v2 on two modalities: paper and either the electronic handheld (PHT LogPad® LW) or the smartphone App (PHT LogPad App). Subjects completed the assessment in a single session with distraction activities between completion of the first and second modality and an exit survey which assessed patient preference for mode of administration. **RESULTS:** Study data will be analyzed to test score level equivalence and to calculate the intraclass correlation coefficient (ICC) and other measures of measurement equivalence. Equivalence analysis is in progress, and findings will be ready to present for this meeting. 82% of subjects found the electronic method easy to use and 80% found it easy to navigate. Of those subjects who expressed a preference, 57% found it more physically comfortable and 69% found it faster to complete than paper. 65% would prefer the electronic method over paper when responding to questions in a clinical trial. **CONCLUSIONS:** This study will evaluate the measurement equivalence between standard paper versions of the SF-36v2 and electronic handheld versions as deployed on an electronic handheld device or a smartphone App. Patients with diabetes generally prefer to complete the SF-36v2 electronically rather than on paper.

PRM106

DEVELOPMENT AND VALIDATION OF THE ANGIOTENSIN-CONVERTING ENZYME INHIBITOR (ACEI) INDUCED ANGIOEDEMA INVESTIGATOR RATING SCALE AND PROPOSED DISCHARGE CRITERIA

Bonner N[1], Kimura A[2], Panter C[1], Sinert R[3], Moellman JJ[4], Bernstein JA[4]

[1]*Adelphi Values Ltd, Bollington, UK,* [2]*Shire HGT, Lexington, MA, USA,* [3]*SUNY - Downstate Medical Centre, Brooklyn, NY, USA,* [4]*University of Cincinnati, Cincinnati, OH, USA*

OBJECTIVES: Angiotensin-converting enzyme inhibitors (ACEI) have been implicated in bradykinin-mediated angioedema. With ever-widening indications for ACEI including hypertension, congestive heart failure, diabetic nephropathy, etc., a concomitant increase in ACEI-Angioedema (ACEI-A) has been reported. At present there is no validated severity scoring or discharge criteria for ACEI-A. We sought to develop an investigator rating scale with corresponding discharge criteria. This study aimed to confirm the clinical relevance, content validity, and reliability of the scale with clinicians experienced in treating ACEI-A. **METHODS:** In-depth, 60-minute qualitative telephone interviews were conducted with 12 US-based emergency physicians. Beforehand, clinicians were sent four case studies describing patients experiencing different severities of angioedema attacks. Clinicians were initially asked open-ended questions about their experience of patients' symptoms, treatment and discharge decisions. Clinicians then rated each patient case study and discussed patient diagnoses, ratings of symptom severity and discharge evaluation. The ratings were used to assess inter-rater reliability of the scale using the intra-class correlation coefficient (ICC) using IBM SPSS analysis Version 19 software. **RESULTS:** The findings provide support for focus on the four key symptoms of airway compromise scored on a 0-4 scale: 1) Difficulty Breathing, 2) Difficulty Swallowing, 3) Voice Changes and 4) Tongue Swelling and the corresponding discharge criteria of a score of 0 or 'No symptoms' for Difficulty Breathing and Difficulty Swallowing and a score of 0 or 1 indicating mild or absence of symptoms for Voice Change and Tongue Swelling. Eleven clinicians agreed the absence of standardized discharge criteria supported the use of the scale and all physicians concurred with the recommended discharge criteria. The clinician ratings provided evidence of strong inter-rater reliability for the rating scale (ICC>0.80). **CONCLUSIONS:** The investigator rating scale and discharge criteria are clinically valid, relevant and reliable. Moreover, both address the current unmet need for standardized discharge criteria.

PRM107

DEVELOPMENT OF A DISEASE MODEL FOR SPORADIC INCLUSION BODY MYOSITIS (SIBM)

Gnanasakthy A[1], DeMuro C[1], Lewis S[1], Tseng B[2]

[1]*RTI Health Solutions, Research Triangle Park, NC, USA,* [2]*Novartis Pharmaceuticals, Cambridge, MA, USA*

OBJECTIVES: sIBM is a progressive idiopathic inflammatory myopathy characterized by the asymmetric atrophy and weakness of proximal and distal muscle groups. Atrophy of the quadriceps, wrist, and finger flexor muscles and dysphagic processes are clinical hallmarks and result in significant functional disabilities with progression. To understand impact on patients, a qualitative study was conducted to support the development of a disease model depicting relationships among patient concepts relevant to disease progression that may be impacted by the treatment of sIBM. No such disease model is currently available. **METHODS:** A literature review was conducted to determine a preliminary understanding of the impact of sIBM. This was followed by therapeutic area expert input and interviews of patients diagnosed with sIBM (n = 20). Based on all results, a model was constructed. **RESULTS:** Results from literature and expert input allowed for the development of an initial diagram depicting a proposed pathway from a diagnosis of sIBM, modifying factors (e.g. age, gender, duration, severity, falls), proximal concepts of signs and symptoms of disease (weakness, atrophy), functioning (upper extremity, lower extremity, general, swallowing) and through more distal psychosocial concepts (emotions, mood, relationships). Patient feedback was used to further refine the model. Some physical

impacts were described as difficulty standing from a seated position or using stairs in early disease followed by increased falls, gait impairment, and progressive loss of ambulation resulting in the need for assistive devices. Upper extremity weakness results in difficulty with activities requiring gripping and lifting. Dysphagia can include swallowing difficulties, choking, and interference with nutritional intake. Psychosocial impacts were often related to the loss of autonomy, fear of falls, social and familial impacts and the need for assistance. **CONCLUSIONS:** This sIBM disease model adds significantly to the literature describing the patient impact of sIBM and may be used to guide selection of clinical trial endpoints.

PRM108

HEALTH-RELATED QUALITY OF LIFE AMONG ESRF PATIENTS IN PAKISTAN: A CROSS-SECTIONAL APPROACH USING WHOQOL-BREF

Iqbal MZ[1], Iqbal MS[2], Iqbal MW[3], Bahari MB[2], Nasir S[4]
[1]*Department of Clinical Pharmacy, School of Pharmaceutical Sciences, Universiti Sains Malaysia, Pulau Pinang, Malaysia Department of Clinical Pharmacy & Pharmacy Practice, Faculty of Pharmacy, AIMST University, Kedah, Malaysia,* [2]*Department of Clinical Pharmacy & Pharmacy Practice, Faculty of Pharmacy, AIMST University, Kedah, Malaysia,* [3]*Faculty of Law, University of Malaya, Kualalumpur, Malaysia,* [4]*Nishtar Hospital, Multan, Pakistan*

OBJECTIVES: To evaluate health-related quality of life (HRQoL) of End Stage Renal Failure (ESRF) patients in Pakistan. **METHODS:** A prospective cross-sectional study was conducted at a tertiary care hospital in a province of Pakistan, the Punjab. WHOQOL-BREF (Urdu version, pretested for reliability and validity) was used as research instrument. Data was obtained through face-to-face interviews and where possible by gender-based focus group sessions. WHOQOL-BREF score was obtained and evaluated to determine HRQoL of ESRF patients. Patients were also asked to share their personal experiences of being diagnosed and treatment given. All obtained data were analyzed using descriptive and inferential statistics by using SPSS 20.0. **RESULTS:** The overall Cronbach's alpha coefficient of the revalidated WHOQOL-BREF questionnaire was 0.799. The scores for negative feelings, depression, living place, personal relationships and sexual life were significantly different in the psychological health and social relations domains. Mean age, gender, education level, occupation and physical exercise were also significantly associated with the HRQoL of the ESRF patients. **CONCLUSIONS:** The WHOQOL-BREF was a reliable and valid research tool to evaluate HRQoL of ESRF patients in Pakistan. A significant impact on HRQoL of the ESRF patients was observed. Together with curative and preventative measures, there is also a great need to measure HRQoL of ESRF patients.

PRM109

CHALLENGES IN TRANSLATING THE CONNERS 3RD EDITION–PARENT INTO 12 LANGUAGES

Verne A, Bailly C, Rouillat C
Mapi, Lyon, France

OBJECTIVES: The Conners 3rd Edition–Parent (Conners 3–P) is used to obtain parents' observations about the behaviors and feelings of children and adolescents aged 6-18 years old. Developed in American English and published by Multi-Health Systems, it was designed to assess Attention Deficit/Hyperactivity Disorder (ADHD). The short version provides the evaluation of inattention, hyperactivity/impulsivity, learning problems, executive functioning, aggression, and peer relations, and includes 43 items rated on a 4-point scale ("Not true at all" to "Very much true"). The objective of this study is to present the challenges faced during the translation of the instrument into ten Indo-European languages (English for four countries, French, Italian, German, Spanish for three countries), one Sino-Tibetan (Chinese), and one Austronesian language (Malay). **METHODS:** The following translation method was used: 1. Concept definition; 2. Forward/backward translation [or adaptation for English and Spanish versions (i.e., for Argentina and Mexico)]; 3. Review of the back-translations/adaptations by the copyright holder of the instrument; and 4. Cognitive interviews with five parents in each country. **RESULTS:** The translation process did not reveal any cultural issues since most of the concepts assessed were cross-culturally relevant. The main difficulties consisted in finding conceptual equivalents of the original items with strong idiomatic content. For instance, the most challenging items were items 13 ("Acts as if driven by a motor"), 31 ("Tells the truth; doesn't even tell "little white lies."), and 40 ("Behaves like an angel"). Most of the solutions were found using concept definitions. Parents were important in discussing changes or proposing solutions. Examples will be provided. **CONCLUSIONS:** The multi-step process proved to be critical to ensure the production of conceptually equivalent and culturally appropriate translations of the Conners 3–P into Indo-European, Sino-Tibetan and Austronesian languages. The involvement of the copyright holder and of parents was crucial in finding solutions.

PRM110

THE IMPORTANCE OF ANCHOR BASED MINIMAL CLINICALLY IMPORTANT DIFFERENCE (MCID) TO HEALTH TECHNOLOGY ASSESSMENT OF ESTABLISHED INTRANASAL ALLERGIC RHINITIS TREATMENTS

Brixner D[1], Meltzer EO[2], Morland K[3], Carroll CA[3], Lipworth BJ[4]
[1]*University of Utah, Salt Lake City, UT, USA,* [2]*Allergy and Asthma Medical Group and Research Center, San Diego, CA, USA,* [3]*Xcenda, Palm Harbor, FL, USA,* [4]*Ninewells Hospital and School of Medicine, Dundee, UK*

OBJECTIVES: Anchor based methods are commonly used to derive MCID in treatment assessments. The objective of this work was to compare the outcomes of an anchor-based vs. non-anchor based methodology in the health technology assessment of intranasal allergic rhinitis treatments. **METHODS:** Data specific to the treatment benefit (active drug versus vehicle placebo) of 4 intranasal seasonal allergic rhinitis treatments (azelastine hydrochloride, ciclesonide, fluticasone furoate, MP29-02) using the reflective Total Nasal Symptom Score (rTNSS) were obtained from the FDA approved prescribing information. Anchor-based MCID estimates reported from Barnes et al. 2010 were then compared to the treatment effect. The outcomes were then compared to the July 2013 Agency for Healthcare Research & Quality (AHRQ) comparative effectiveness report on treatments for seasonal allergic rhinitis, which used a non-anchor based approach. **RESULTS:** Using the most conservative estimates provided within the approved prescribing information, the change in rTNSS from baseline was -1.18 ($p = 0.02$) for azelastine hydrochloride, -1.35 ($p = 0.014$) for ciclesonide, -1.47 ($p < 0.001$) for fluticasone furoate, and -2.7* for MP29-02†($p < 0.001$). Direct anchor-based estimates of MCID derived by Barnes and colleagues ranged from 0.28 units (95% CI: -0.18 to 0.73) and 0.23 units (95% CI: -0.16 to 0.62). Comparison of the anchor-based MCID threshold to the observed treatment indicates a positive clinical benefit for each treatment option. In contrast, the AHRQ report concluded that treatment options were equivalent to each other, to intranasal corticosteroids and to placebo, in contrast to common patient beliefs. **CONCLUSIONS:** Anchor based methods are critical in evaluating MCID as demonstrated by comparison of outcomes across intranasal products for seasonal allergic rhinitis. MCID methods need to be considered when evaluating evidence for health technology assessments. * Range of rTNSS is 0-12; 0-24 for MP29-02 † Dymista® = US trade name of MP29-02

PRM111

CAN'T WE JUST USE THIS PORTUGUESE TRANSLATION IN BRAZIL? ANALYSING WHY THERE IS MORE TO COUNTRY-SPECIFIC PROS THAN TICKING/CHECKING BOXES

Simpson H, Bellhouse G, Neal R, Two R
PharmaQuest Ltd., Bloxham, UK

OBJECTIVES: It is well established that translations of patient-reported outcome (PRO) measures need to be linguistically validated for the country or countries they will be used in - whether that means adapting an existing language version for use in a new country, or developing a language version for multiple countries from the beginning. While it is generally agreed that adaptations must be validated for their target countries, we aim to illustrate to stakeholders that there is more to this process than just a box-ticking exercise, by exploring the country-specific differences that affect translations of PRO measures, and the implications they may have for the resulting patient data. **METHODS:** We analysed examples from nearly ten years of in-house projects involving the adaptation of existing language versions for new target countries. A range of wording changes within these adaptation projects were identified and categorised according to their nature (linguistic variations or culturally-bound terms) and their position in the PRO (instruction, item or response option). We then further assessed the significance of each change and the possible impact on the respondent's understanding of the measure and their ability to answer the items meaningfully. **RESULTS:** The results of the two-part analysis illustrate that although many differences between country-specific language versions may be considered inconsequential (i.e. if a UK spelling of an English word is used in the US, it may still be understood), depending on the type of linguistic variation and its prominence within the PRO itself, in some cases there is a real risk that without the change an item may be misinterpreted or even impossible to answer. **CONCLUSIONS:** The evidence provided by the linguistic and culturally-bound changes made during in-country adaptation projects emphasises why the process of adapting a measure to its target country is invaluable for its successful administration.

PRM112

VALIDATION OF A VITALITY QUOTIENT TO MEASURE THE EFFECT OF FOOD SUPPLEMENTS ON FATIGUE IN HEALTHY SUBJECTS

Allaert F[1], Courau S[2], Forestier A[2]
[1]*Medical evaluation Chair ESC Dijon, Dijon, France,* [2]*Merck CH, Dijon, France*

OBJECTIVES: validation of the psychometric properties of the "vitality quotient" questionnaire (VQ) i.e. the measures of its internal consistency, external validation and sensitivity to change. **METHODS:** Prospective observational survey on patients consulting for fatigue and taking Bion3® during winter . The VQ includes 10 questions describing subjects' activities and mood, rated from "1: very often" to "10: never". Its comprehensibility and test-retest reliability has been evaluated in one other study. Each patient fulfil the VQ and the Pichot scale which is a reference scale for fatigue evaluation at inclusion and every month during three months. Internal consistency of the QV was measured with Cronbach's alpha coefficient, external validation by its correlation coefficient with Pichot scale and its sensitivity to change by the paired T test of its average variations during the study period. **RESULTS:** 132 subjects 48.2 ± 13.5 years old (63.6% women) were followed. The Cronbach's alpha coefficient has a very high level of 0.93 and therefore indicates a very good internal consistency. The study of the VQ correlation with the fatigue scale of Pichot at baseline shows a high Pearson coefficient of $r = -0.67$ ($p < 0.0001$) and the study of the correlation of their changes during the three months is of $r = -0.75$ ($p < 0.0001$). The QV is also sensitive to change. After one month the VQ increases from 47.3 ± 18.5 to 60.4 ± 20.5 and then to 73.5 ± 18.0 after 2 months and to 80.9 ± 18.1 after 3 months which is highly significant ($p<0,0001$) and corresponds to improvements of respectively +27.7%, +55.4% and +71.0% of the initial vitality of the subjects taking Bion3®. **CONCLUSIONS:** This study validates psychometrics properties (reliability, external validity and sensitivity to change) of the « vitality quotient » which appears an effective to evaluate food supplements effects in healthy subjects complaining of fatigue and expressing a loss of vitality.

PRM113

CHALLENGES FACED DURING LINGUISTIC VALIDATION FOR SOUTH AFRICA

Towns L, Williams H, Anderson H, Gergovich B
ICON Plc, Oxford, UK

OBJECTIVES: (1) To investigate the difficulties experienced during translation of Clinical Outcomes Assessments for South Africa with regard to the existence of multiple official languages (2) To identify patterns of terminology usage across different settings in South Africa **METHODS:** Back translation and cognitive debriefing reviews were reviewed across multiple South African languages from linguistic validation projects. The results were compared and challenges with conceptual equivalence